BURLINGTON EMPLOYEES' RETIREMENT SYSTEM

James T. Strouse
Chairman of the Board
Robert Hooper
Vice-Chairman

Stephanie Hanker
Retirement Administrator
802-865-7097
VT Relay – dial 711

SPECIAL
Retirement Board Meeting Agenda
City Hall Conference Room 12
Thursday August 23, 2018 9:30am

1. Agenda
2. Public Forum
3. Elect Chair, Vice-Chair and Secretary of the Board
4. Approve Minutes of July 25, 2018
5. Approve Retirement Applications
6. Ratify Refund and Rollovers
7. Performance Presentation - UBS
8. Performance Presentation – Dahab Associates
9. Discussion of Rate of Return
10. Possible Executive Session
11. Adjourn

Draft
July 25, 2018
Burlington Employees' Retirement Board
Special Meeting
Burlington Electric

Board Members Present:

- Ben O'Brien Via Phone
- Beth Anderson
- Robert Hooper
- Matt Dow (Via Phone) + Person 3:25pm
- Pat Robins
- David Mount 3:09pm

Others Present:

- Stephanie Hanker
- Lisa Roach
- Kim Sturtevant Via Phone
- Richard Goodwin
- Jim Strouse
- Steven Lemanski H&H

Called to order at 3:05pm

1. ***Agenda***:
   Request to table board elections for chair, vice chair and secretary to next meeting.

2. ***Public Forum***:
   No Public Present

3. **Elect Chair, Vice Chair and Secretary of the Board:**
   Tabled to August

4. ***Approval Minutes of 06/21/2018:***
   Benjamin O'Brien moved to approve the minutes as presented. Beth Anderson 2nd. Motion carries 5:0

5. ***Approval of Bills:***
   Benjamin O'Brien moved to approve the presented bills. Matt Dow 2nd. Motion carries 5:0

6. **Approval of Retirement Application**
   Beth Anderson moved to approve the applications presented. Ben O'Brien 2nd. Motion carries 5:0

7. ***Ratify Refund and Rollovers:***
   Beth Anderson moved to approve. Matt Dow 2nd. Motion carries 5:0

8. Discussion Regarding Actuarial Methods:
   Steve Lemanski suggested to the Board the current use of the Open Group Method should be reconsidered to develop the annual funding policy contributions. Steve Lemanksi stated the Board should consider moving to the Direct Rate Smoothing method, which employs a modified open group approach. Steve Lemanksi stated the benefits of moving to the new method would capture now some of the saving the system will see as staff retire that are covered under more expensive benefit and capture new members that are hired with lesser benefits. Steve Lemanski stated the new method allows for more flexibility with assumptions and allow for updating every five years, as each experience study is completed. Steve Lemanski stated that with the proposed step down, the $300K collar, ten year smoothing and other changes currently within and proposed for methods and assumptions, that would create a reasonably conservation and more stable method to the system over the next several years and should see growth in the funding level.

   Steve Lemanski will prepare different scenarios concerning rate of return for the Board, 7 ¾ % and 7 ½% when current valuation is completed.

9. ***Adjourn:***
   Pat Robbins moved to adjourn. Matt Dow 2nd. Motion carries 6:0 Meeting adjourned 4:00pm.

BURLINGTON EMPLOYEES' RETIREMENT SYSTEM

James T. Strouse
Chairman of the Board
Robert Hooper
Vice-Chairman

Stephanie Hanker
Retirement Administrator
802-865-7097
Dial 7-1-1 (TTY)

August 2018
Retiree Approval List

Name	Class	Type	Monthly Amount	Effective Date
Jeffrey Beerworth	A	Disability Retirement	$3,992.65	06/26/2018
Brian Wilkinson	A	Disability Retirement	$3,818.22	07/31/2018
Randall Bergeron	B	Service Retirement	$1,171.92	07/11/2018
Scott Crady	A	Early Retirement	$4,147.04	07/20/2018
Ann Bombard	B	Late Retirement	$2,309.28	07/01/2018
Karen Downey	B	Late Retirement	$2,949.57	06/16/2018
Douglas Murray	B	Early Retirement	$1,079.64	08/01/2018
James Lauzon	B	Service Retirement	$453.50	09/01/2018

City of Burlington Vermont

BURLINGTON EMPLOYEES' RETIREMENT SYSTEM

Stephanie Hanker
Retirement Administrator
802-865-7097
TTY Dial 7-1-1

TO: Retirement Board Members

FROM: Stephanie Hanker

DATE: August 23, 2018

SUBJECT: Class "A and B" Refund's

Following our usual procedure, this is to notify you that I will be ordering checks for Class "A" or Class "B" employees who have requested a refund/rollover.

Dairo Cutura a former Class B employee, took a refund of their retirement contributions in the gross amount of $4,984.65.

Nicole Rainville a former Class B employee, took a refund of their retirement contributions in the gross amount of $1,687.06.

John Hayes, a former Class B employee, took a refund of their retirement contributions in the gross amount of $3,155.40.

Thomas Morrell a former Class A employee, took a rollover of their retirement contributions in the gross amount of $15,216.80.

Aster Turnbull, a former Class B employee, took a rollover of their retirement contributions in the gross amount of $10,138.59.

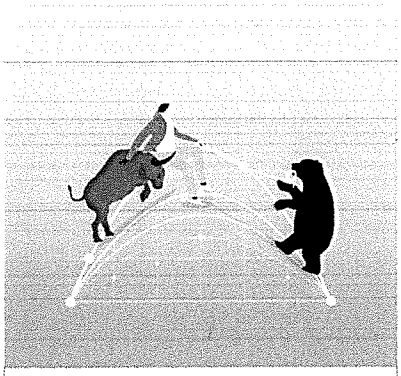
Michelle Keller, a former Class B employee, took a rollover of their retirement contributions in the gross amount of $9,308.12.

Ellen Gawarkiewicz, a former Class B employee, took a rollover of their retirement contributions in the gross amount of $1,043.50.

Davis McCarthy, a former Class B employee, took a refund of their retirement contributions in the gross amount of $2,636.67.

Dahab

research affiliates



July 2018

FURTHER READING

June 2018

Pundits Predicting Panic in Emerging Markets

Chris Brightman, CFA, Michele Mazzoleni, PhD, and Jonathan Treussard, PhD

April 2018

Yes. It's a Bubble. So What?

Rob Arnott, Bradford Cornell, PhD, and Shane Shepherd, PhD

March 2018

When Value Goes Global

Brandon Kunz and Michele Mazzoleni, PhD

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Where Is the Global Economy Going?

By Vitali Kalesnik, PhD, Jim Masturzo, CFA, and Michele Mazzoleni, PhD

The three most common expressions in aviation are: Why is it doing that? Where are we? and Oh crap! – Anonymous

As in aviation, the questions "Why is it doing that?" and "Where are we?" also happen to be very commonly posed by economists and market watchers. For the most part, we never truly know where we are in an economic cycle until after the fact. By that time, if anything meaningful has changed, it's usually an "Oh crap" moment for investors. Due to the delayed nature of many economic indicators, over the last few years nowcasting has become part of the investment lexicon, especially for market participants looking to get a leg up on the competition and in their own portfolios.

Key Points

1. *Investors are wise to look at more granular classifications of the business cycle and not just relatively infrequent NBER recessions.*

2. *Yield-curve slopes and equity market returns can be used as nowcasting signals to identify turning points of the business cycle.*

3. *Market signals are implying a number of developed markets—notably, Japan, the United States, and Germany—are now entering the correction phase of the business cycle. Trade wars, Brexit, debt issues in Italy and Spain, and political problems in Germany and Italy can make the road ahead a lot bumpier than the road we have grown accustomed to.*

In this article, we show how simple and easy-to-access market fundamentals can be used in real time to identify multiple stages in the business cycles of developed economies, going beyond the usual narrow characterization of recessions. Indeed, for the purpose of investing, we must look at all business-cycle states, not just those identified by the National Bureau of Economic Research (NBER), the entity responsible for dating US recessions, whose motivations may not align with the needs of investors. Hence, we review evidence from bond and equity markets as useful descriptors across *all* major business-cycle stages. Furthermore, we take a global perspective by applying our findings across 14 major developed markets.

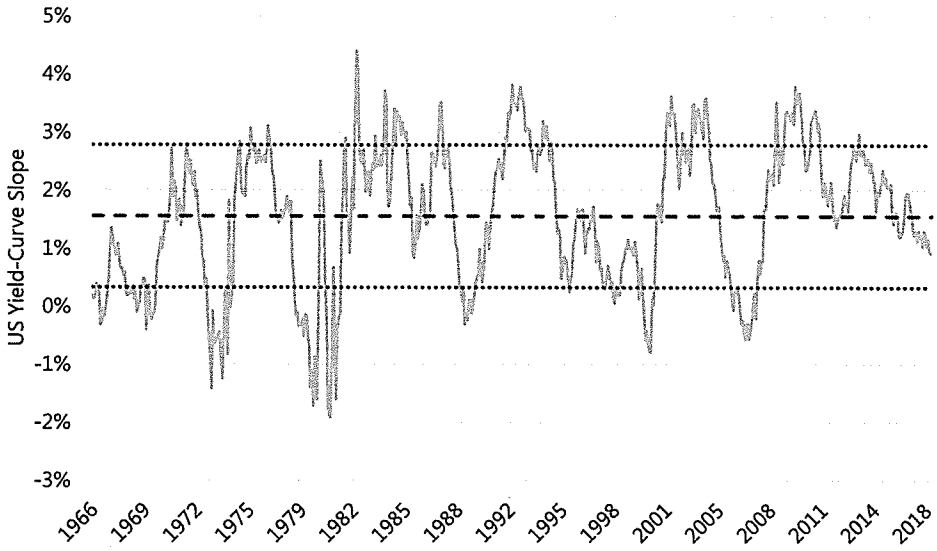
Our evidence shows that bond yields and equity returns can provide clarity as to the current phase of the business cycle, especially during transient states when economies tend to turn the corner on the next phase. Specifically, the slope of the yield curve tends to peak when an economy is rebounding after a recession, and it flattens or inverts when economic growth loses momentum. We also find that equity returns can be used as a second predictor to further refine the identification of the business-cycle stage. These results paired with the most recent market trends imply that a number of major developed markets may be currently entering the correction phase of the business cycle, producing above-potential output, but in the midst of a slowing economy. The good news is that not all corrections turn into fully fledged recessions; the bad news is that the road ahead may be bumpier than what we have grown accustomed to over the last few years.

Throwing Our Hat in the Ring

By discussing market variables and the economy, we join a crowded field. For example, with the recent flattening of the US yield curve, the slope is back in the news, as any search of *Google Trends* will attest. As a widely accepted predictor of economic recessions, the slope is generally defined as the spread between the yields of the 10-year government benchmark and a shorter-term government benchmark, often the three-month maturity. Historically,

The US yield-curve slope is now below its long-term average, an indication that a recession may be on the way.

Slope of the US Treasury Curve, Dec 1966–Jun 2018



Source: Research Affiliates, LLC, using data from the US Department of the Treasury and Bloomberg. The blue line is the yield-curve slope (10-year yield – 3-month yield), the black dashed line is the average slope, and red dotted lines are +/– one standard deviation from the average slope.

> *"The global economy may now be shifting from a bull economy to a correction phase."*

a downward-sloping yield curve foretold of higher unemployment, slower real GDP growth, and falling wages and industrial production, and was viewed as a signal for investors to move toward a risk-off portfolio position.

In the United States, the yield curve has been flattening for the better part of the last decade, albeit from a level of significant steepness following the global financial crisis. The most recent march downward started in early 2017 and has taken the yield-curve slope to a point below its long-term average to a level not seen in a flattening cycle since early 2005.

Moreover, the slope is not the only market-based indicator that has been raising concerns. Indeed, the recent jitters across international equity markets have heightened investors' fears that bad economic times might be just around the corner.

Decoding the Business Cycle

In order to understand where we are in the economic cycle, we suggest a simple framework for classifying the various states of the economy over a full business cycle.

In the United States, an NBER-classified recession is a relatively narrow set of events in which a contraction is observed across a wide array of indicators. Since 1953, according to the NBER, the United States has been in recession only 14% of the time; since 1990, this has fallen to 10%. Arguably, a more granular framework than a binary "in" or "out of" recession could be a more valuable tool for investors.

In order to define a set of business-cycle states, we intersect two output-based metrics. The first metric is the well-known output gap, which measures whether the level of production is above or below its estimated potential *level*, based on data from the OECD (Organisation for Economic Co-operation and Development). We then combine this output-gap data with country-specific slowdowns and expansionary phases as measured by the Federal Reserve Bank of St. Louis (available in the FRED database). These phases indicate the momentum, or speed, at which the economy is running. The intersection of these two measures allows us to classify four stages of the business cycle.

Four Business-Cycle States

We name these four interaction states as follows: bull economy, correction, bear economy, and rebound. In a bear economy, for instance, the output level is below its potential and its growth rate is decelerating, which produces a double whammy! Arguably, the global economy may now be shifting from a bull economy to a correction phase, as suggested by current volatile market conditions.

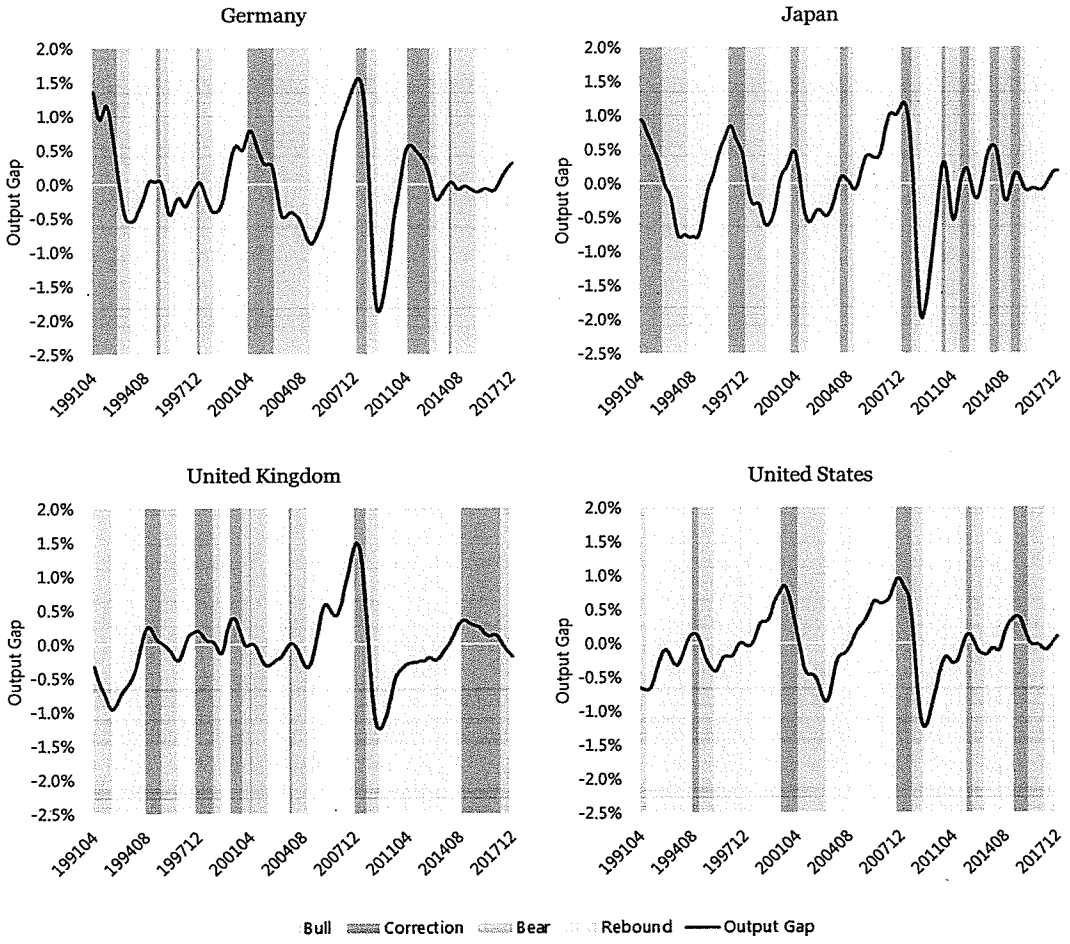
Interaction (Business-Cycle) State	Economic Potential (Output Gap)	Economic Momentum (Expansion/Slowdown)
Bull Economy	Above	Accelerating
Correction	Above	Slowing
Bear Economy	Below	Slowing
Rebound	Below	Accelerating

In the United States, since 1966 each of these economic states has lasted an average of about 12 months, with recoveries lasting slightly longer at 15 months. Said another way, on average, a full business cycle lasts between four and five years. Looking at the other major developed markets of Germany, Japan, and the United Kingdom, we see the same picture, although data availability means our look-back period is more limited.

Using these economic variables as the basis of a business-cycle framework results in business-cycle states that are easily identifiable and reproduceable, not to mention familiar to most investors; however, we note a few catches. Both the output gap and the expansion/slowdown measure are not known in real time. Additionally, the four economic stages are the byproduct of a statistical filter, which uses

All four business-cycle states, not just those defined by the NBER, are helpful guides for investors as they navigate the markets.

Business-Cycle States: Germany, Japan, United Kingdom, and United States, Apr 1991–Dec 2017



Source: Research Affiliates, LLC, using data from the Federal Reserve Bank of St. Louis (FRED).

forward-looking information to determine historic peaks and troughs in the economy. Therefore, we need a different go-forward mechanism to identify the present economic state.

Nowcasting with the Yield-Curve Slope

As we have already noted, the slope of the yield curve has long been used as a predictor of recessions.[1] In particular, the slope of the yield curve usually becomes flat or inverted ahead of an economic recession. Possible reasons for this include 1) monetary tightening by central banks that may precede a slowdown in economic activity, and 2) a change in investors' long-term interest rate expectations and/or required compensation for holding duration risk.

Turning to our four-state framework, we can see that the slope—computed as the spread between the 10-year and three-month government benchmark yields—shows a consistent pattern across a set of 14 developed markets over the period April 1991 through December 2017. First, we calculate the slope at the end of each month for each country and remove the country average from each obser-

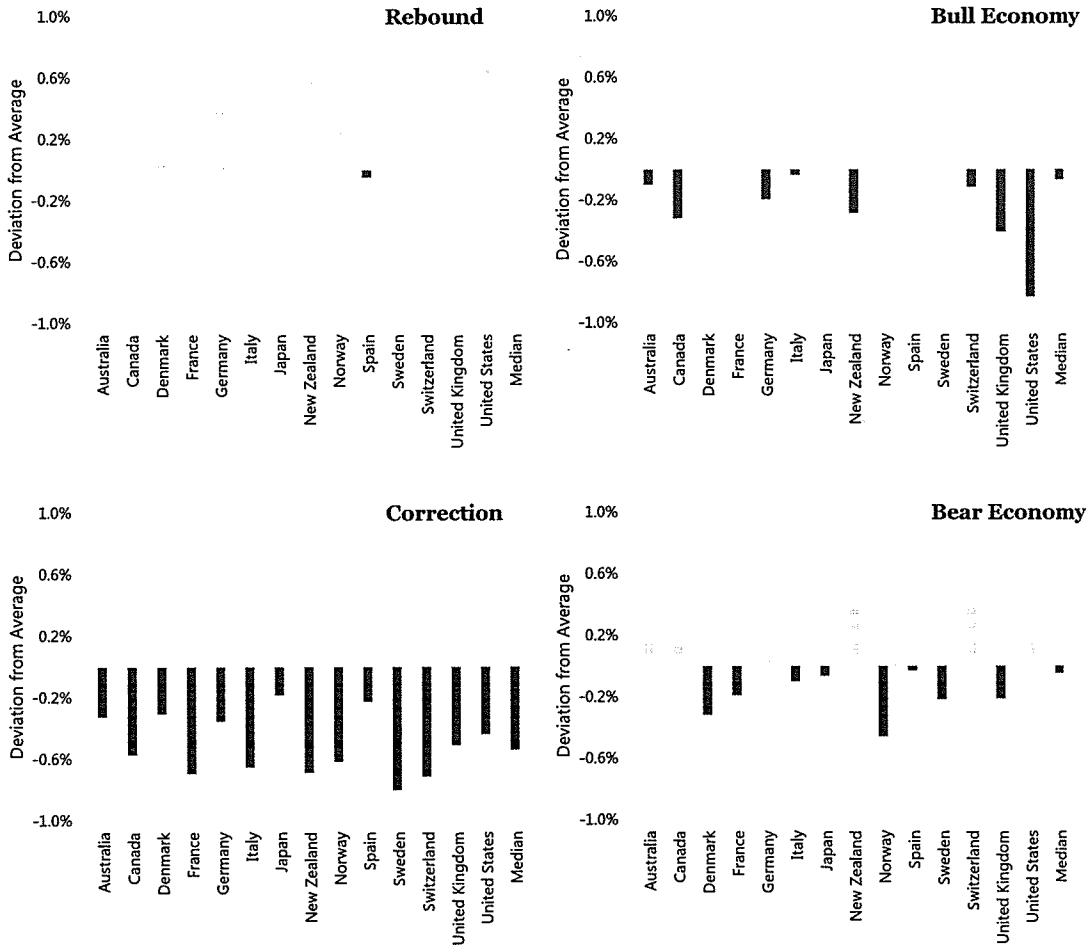
vation; in this way, we are able to isolate deviations from the norm at the country level. We then categorize each month into one of the four business-cycle states of bull economy, correction, bear economy, and rebound.

The evidence shows a consistent association between the slope and two of the business-cycle stages—correction and rebound—across our full set of 14 developed economies. In contrast, the evidence is mixed and inconsistent across countries for the bull and bear economic states. Additionally, the magnitude of the deviation in the yield-curve slope from the average over the sample period is larger in both the correction and rebound states.

In simple terms, our international evidence suggests that the slope of the yield curve is the steepest when the economy is rebounding after tough times, and is close to flat or even inverted when the economy is entering a period of subdued growth following exuberant times. The key insight is that the yield curve is a richer predictor of more than

Across these 14 developed economies, we find a consistent association between the yield-curve slope and the business-cycle stages of correction and rebound.

Yield-Curve Slope Categorized by Business-Cycle State, Apr 1991–Dec 2017



Source: Research Affiliates, LLC, based on data from Bloomberg.

> *"The yield curve is a richer predictor of more than just recessions."*

just recessions. First, not all correction phases eventually result in a recession, yet a flattening of the curve should indicate, at a minimum, a loss of economic momentum. Second, macro rebounds can be detected by above-average slope levels.

Diving a bit deeper, the United States offers a longer data sample to further validate the intuition gained from the international evidence. From 1966, the average slope of the US yield curve has been about 1.5%. In the bull and bear economic states, the slope tends to be similar to the average at 1.4% and 1.7%, respectively. In the correction and rebound phases, however, we see noteworthy deviations from the average with slopes of 0.6% and 2.2%, respectively.

To further drive home this point, we turn to a visual chart of the yield-curve slope, overlaying our correction and rebound phases on the time series over the period April 1953 to December 2017. Although not perfect in all periods, we can see that, historically, rebounds have often coincided with a steep yield curve, while corrections have corresponded to a flat or inverted yield curve. All considered, the evidence suggests that the slope is a very useful indicator of the turning points in the business cycle.

Nowcasting with Stock Market Returns

To validate and extend our analysis, we now turn our attention to equity market returns. Indeed, changes in equity prices are useful real-time indicators because they reflect changes in investors' expectations about future cash flows as well as their appetite for holding equity risk (itself a function of duration and credit risks).

Unlike the slope of the yield curve, which is an observable yield spread in a single period, we must choose a horizon in order to measure return. Because the average length of each business-cycle stage is about 12 months, it makes sense to choose a shorter period than 12 months to decipher cycle turning points. The more granular the period, however, the more noise is introduced into the process. As a happy medium, we use a six-month return.

Following a similar process as before, we measure the difference between each nation's six-month trailing return and the full-sample average of contemporaneous equity market returns over the period April 1991 through December 2017. The results differ slightly from the slope analysis. Here we see that equity returns associate with a binary breakdown of the economy: up during rebound and bull states, and down during correction and bear states (although the magnitudes are larger for rebounds and corrections). This is consistent with the evidence that equity returns are good identifiers of expansions and slowdowns in the growth rate of the economy. More generally, this evidence confirms that the level of the slope and of equity returns appear to signal a similar direction for the economy.

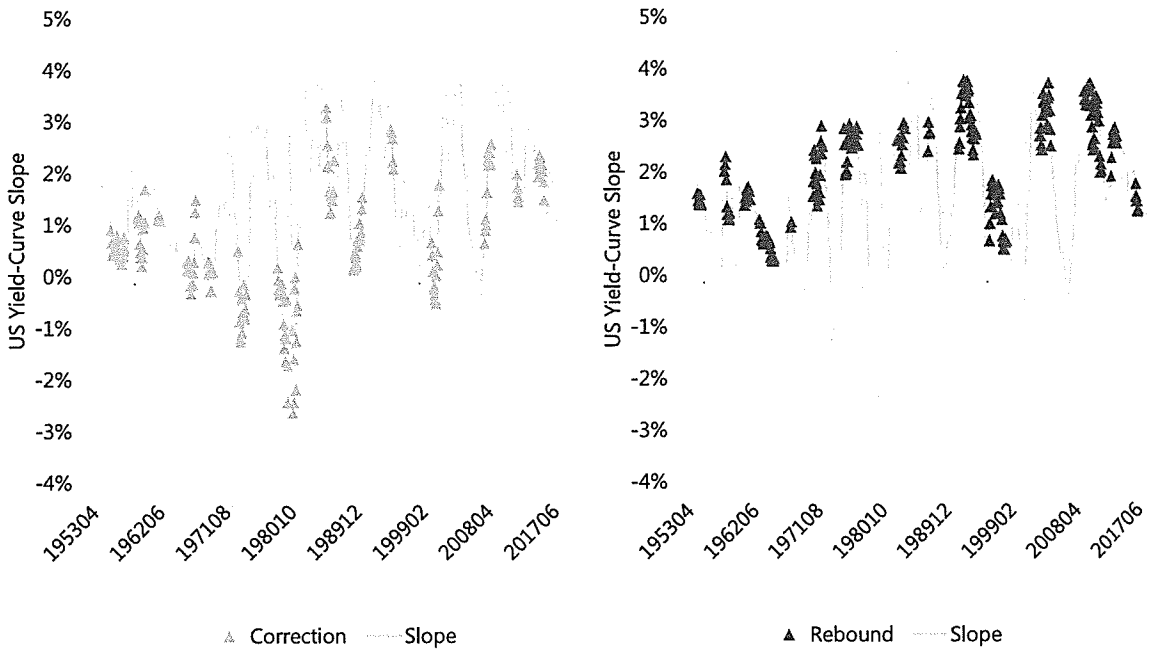
Average US Yield-Curve Slope in Each Business-Cycle State, Jan 1966–Dec 2017

Bull	Correction
1.4%	0.6%
Bear	**Rebound**
1.7%	2.2%

Source: Research Affiliates, LLC, using data from the US Department of the Treasury and Bloomberg. The entire sample average is 1.49%.

Historically, the yield-curve slope has been a very useful indicator of turning points in the business cycle.

US Yield-Curve Slope and Correction/Rebound States, Apr 1953–Dec 2017



Source: Research Affiliates, LLC, using data from the US Treasury and Bloomberg. The blue line in each graph represents the yield-curve slope.

The union of the slope of the yield curve and equity returns constitutes a happy marriage. By using these two indicators, we may be better able to filter false positives that could occur if we were to use only the slope. On the one hand, a below-average slope matched with negative equity returns is suggestive of a correction phase. On the other hand, an above-average slope matched with positive equity returns is a signal of entering rebound territory.

> *"The slope and equity returns appear to signal a similar direction for the economy."*

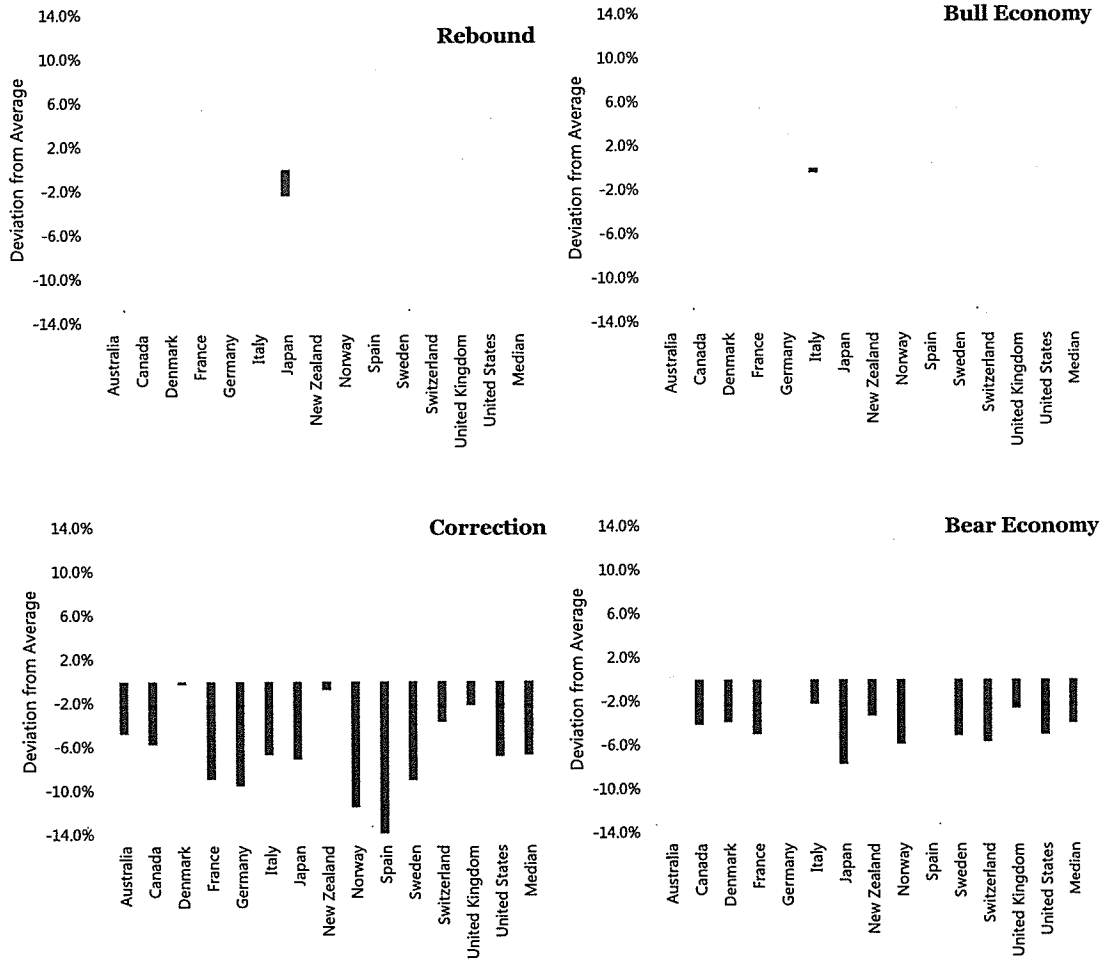
The keen observer will have noticed a bit of an inconsistency in our two market metrics. For bonds, we use a forward-looking, income-based, metric, whereas for equities we use a historical, return-based metric. This inconsistency is intentional, and we believe is a benefit of our approach because it incorporates two diverse perspectives as opposed to simply using two yield metrics or two return metrics.

What Does This Tell Us About Today?

Our findings paired with the most recent quarter-end market data imply that a number of major developed markets are currently entering correction territory. We create a scatterplot of the slope (*x*-axis) and the equity return (*y*-axis) for each of the developed markets in our

Equity returns can identify expansions and slowdowns in the economy.

Equity Market Six-Month Trailing Returns, Apr 1991–Dec 2017



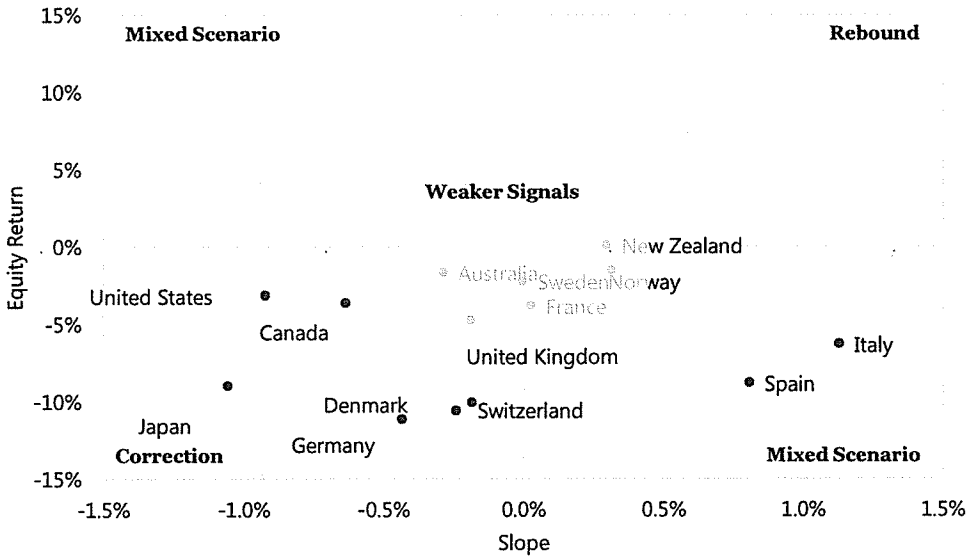
Source: Research Affiliates, LLC, using data from MSCI and Bloomberg.

sample set as of June 30, 2018. We divide the scatterplot into four quadrants consistent with the four business-cycle stages. The lower-left and upper-right quadrants, where the slope and return agree, are the correction and rebound states, respectively. In the other two quadrants, the signals are mixed and we cannot make a prediction. Countries near the origin have weak signals and few conclusions should be drawn about impending changes in their business cycles.

As we have shown throughout this article, these signals work well across developed countries and are useful in categorizing similarities in the business-cycle stage of groups of countries. Currently, a number of countries have very weak signals, but a few cluster in correction territory.[2] In particular, for Japan, the United States, Canada, and Germany, the situation is starting to look ominous. We will be watching closely to see if these trends continue.[3]

The combined signals of slope and equity returns suggest the United States, Canada, Japan, and Germany are very close to economic corrections.

Slope and Equity Return Deviations from Averages, as of June 30, 2018



Source: Research Affiliates, LLC.

Of course, investors should continue to monitor events beyond those that can easily be extrapolated from asset returns. The particular factors to be mindful of, those which can push an economy from a simple correct to a recession, include:

- **Trade wars** have the biggest potential to hurt global GDP. Global growth over recent decades has been fueled by international trade. Tariffs and barriers will not just put a stop to growth, but are also likely to reduce global GDP.
- **Brexit** in the United Kingdom has the potential to disrupt the international flows of capital and trade, at least in Europe.
- **Italy's debt** situation has been met with a new coalition pushing for unorthodox policies, which may further strain the nation's financial situation. Financial and economic distress in an economy of Italy's size can easily translate into a systemic eurozone crisis.
- Growing **political disagreement** across the countries of Europe on a range of policy matters could be detrimental to the long-run prospects of these nations.

Endnotes

1. The yield curve, as one of the strongest forecasters of economic activity, has been documented and studied quite extensively by Kessel (1965), Harvey (1988), Harvey (1989), Estrella and Hardouvelis (1991), Chauvet and Potter (2005), and Rudebusch and Williams (2009).

2. Italy and Spain should be interpreted carefully, because their bond markets may reflect default risk as well.

3. We use these signals to identify the stage of the economic business cycle and not to forecast asset returns. The latter effort is the subject of many articles, both academic and practitioner, but is not our focus here.

References

Chauvet, Marcelle, and Simon Potter. 2005. "Forecasting Recessions Using the Yield Curve." *Journal of Forecasting*, vol. 24, no. 2 (March):77–103.

Estrella, Arturo, and Gikas A. Hardouvelis. 1991. "The Term Structure as a Predictor of Real Economic Activity." *Journal of Finance*, vol. 46, no. 2 (June): 555–576.

Harvey, Campbell. 1988. "The Real Term Structure and Consumption Growth." *Journal of Financial Economics*, vol. 22, no. 2 (December):305–333.

———. 1989. "Forecasts of Economic Growth from the Bond and Stock Markets." *Financial Analysts Journal*, vol. 45, no. 5 (September/October): 38–45.

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Rudebusch, Glenn, and John Williams. 2009. "Forecasting Recessions: The Puzzle of the Enduring Power of the Yield Curve." *Journal of Business and Economic Statistics*, vol. 27, no. 4: 492–503.

Disclosures

Rate of Return

Vermont's ballooning pension debt threatens state's financial future

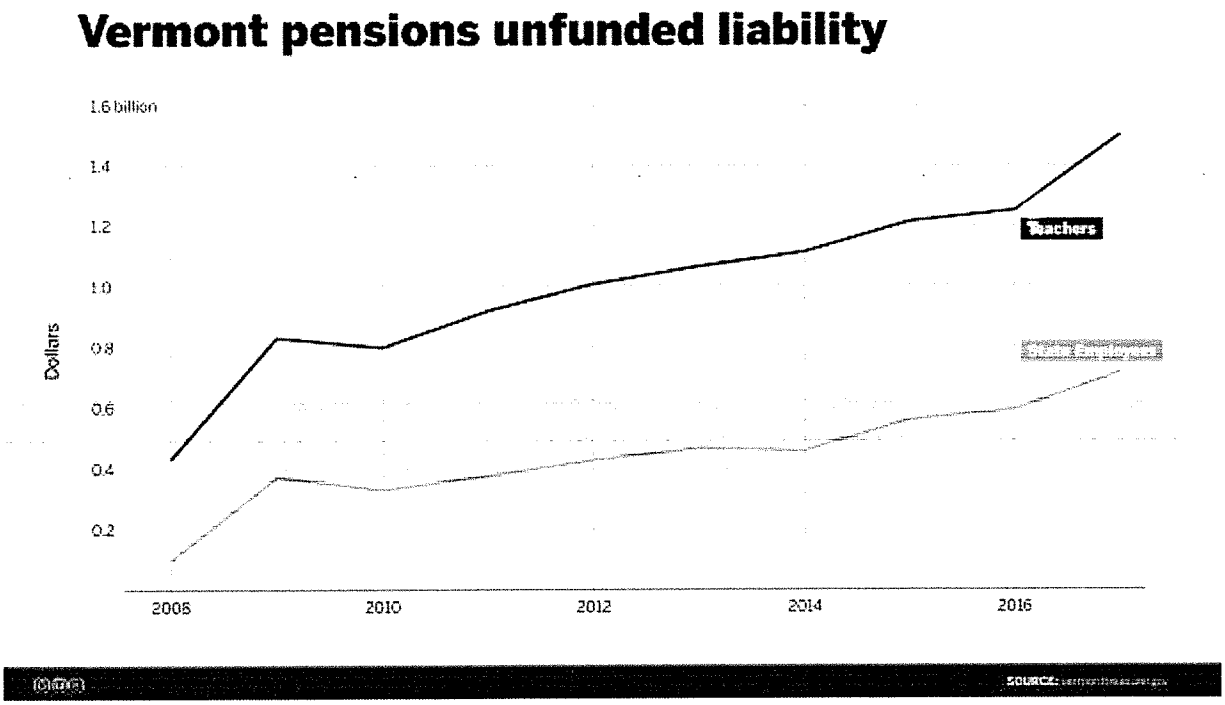
By **Elizabeth Hewitt**

Aug 1 2018

The gap between what Vermont owes current and future retired state employees and teachers, and what assets it has to pay them, has ballooned in the last decade, threatening not only the future of the state's retirement plans, but also the state's credit rating and other markers of its financial standing.
The dramatic increase in unfunded obligations in recent years is the upshot of flaws in the system that some say can be corrected only by making major changes in the state's retirement benefits plans.

But State Treasurer Beth Pearce says the state is in the process of taking corrective action, which will right the ship eventually — though she concedes it will take time.

The funding gap for state pension programs has multiplied for both teachers and state employees.

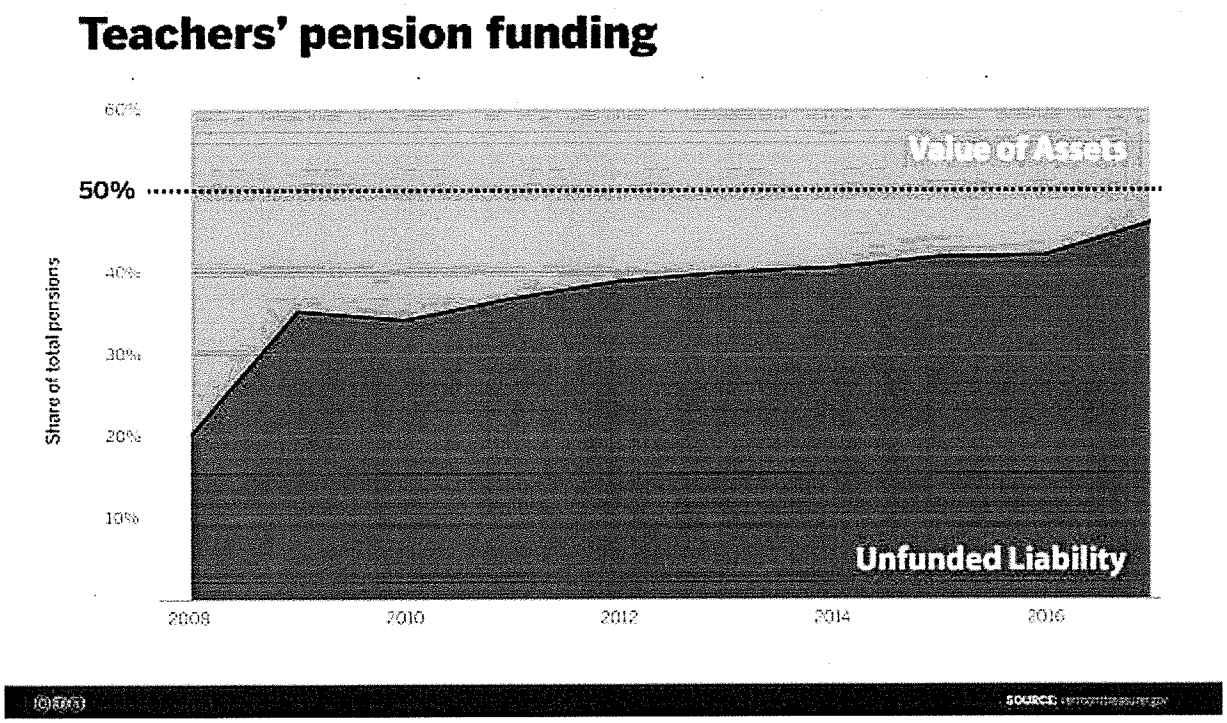


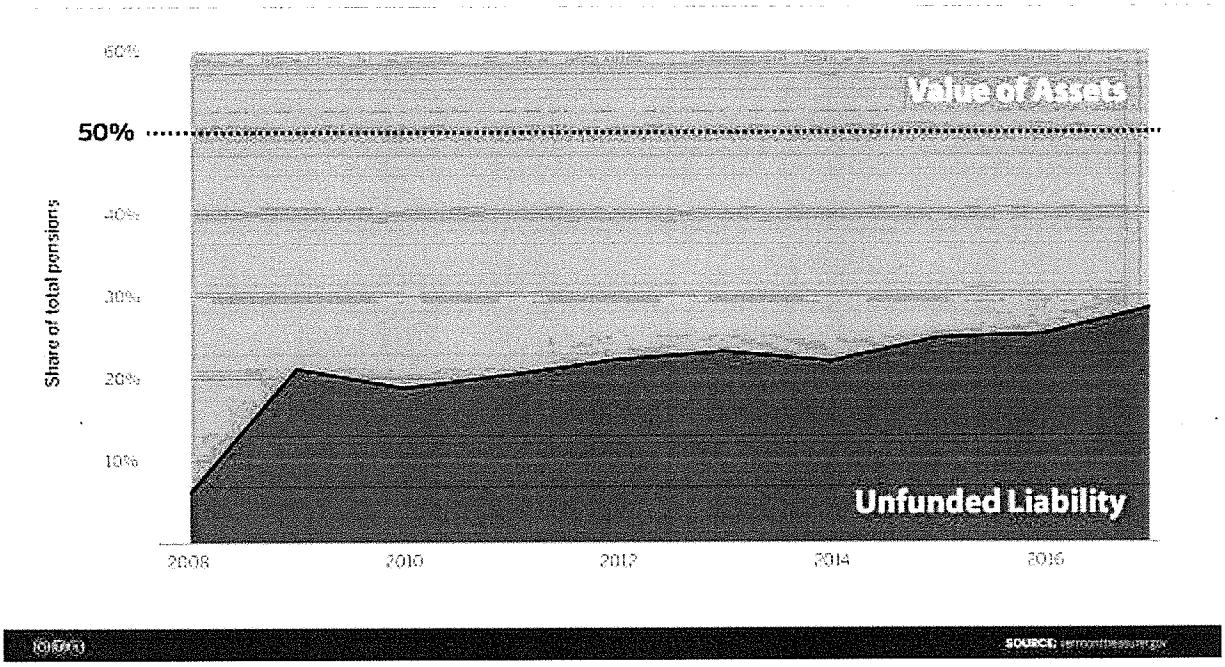
Unfunded obligations in the teachers' pension program, which was less than $400 million in 2008, had grown to $1.5 billion by 2017. For state employees, the unfunded portion of the pension program increased from $87 million in 2008 to $717 million in 2017.

Vermont is not the only state to see the assets of its public pension programs vastly outstripped by looming liabilities.

A **report released in April by Pew Charitable Trusts** found that state pension funds in the U.S. collectively have a $1.4 trillion deficit.

The report, an examination of state pension funding in 2016, the most recent year for which data was available, says "Many state retirement systems are on an unsustainable course, coming up short on their investment targets and having failed to set aside enough money to fund the pension promises made to public employees."





Vermont's unfunded pension liability has not seen as dramatic an increase as many other states, but Joe Nation, a Stanford University professor who helped create the **Pension Tracker tool**, characterized Vermont's statistics as "a little bit of good news."

"It's kind of like being on the Titanic and saying, but yeah, I have a first class ticket," he said.

Nation said part of the problem has been that the public pension system in the United States has tended to operate according to a different set of standards from other countries. Pension systems in the U.S., he said, assume a "very high rate" of return on investments, a uniquely American optimism that he said reminded him of a classic Clint Eastwood line: "You gotta ask yourself one question, do I feel lucky? Well do ya, punk?"

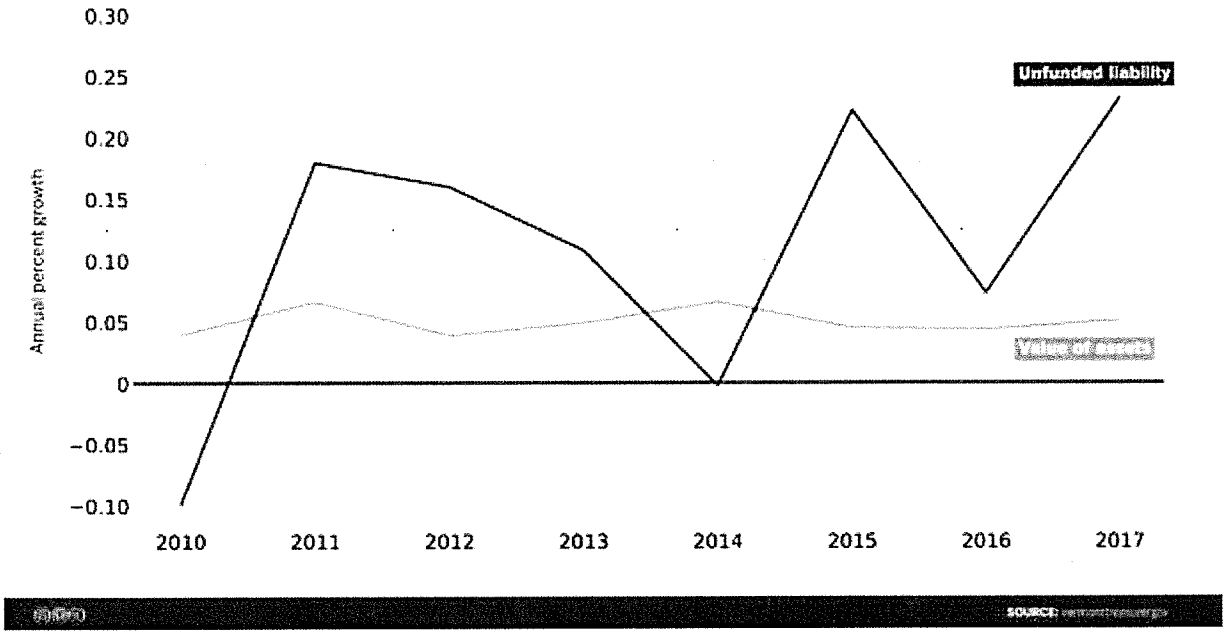
The real question, he says, is whether the projected rate of return is realistic. And if it isn't, "You can get into trouble very quickly," he said. "It doesn't take much time for a system to become terribly underfunded."

Many states, including Vermont, have tended to project rates of return for their pension systems at more than 7 percent, Nation said, while most financial experts would call closer to 6 percent more realistic.

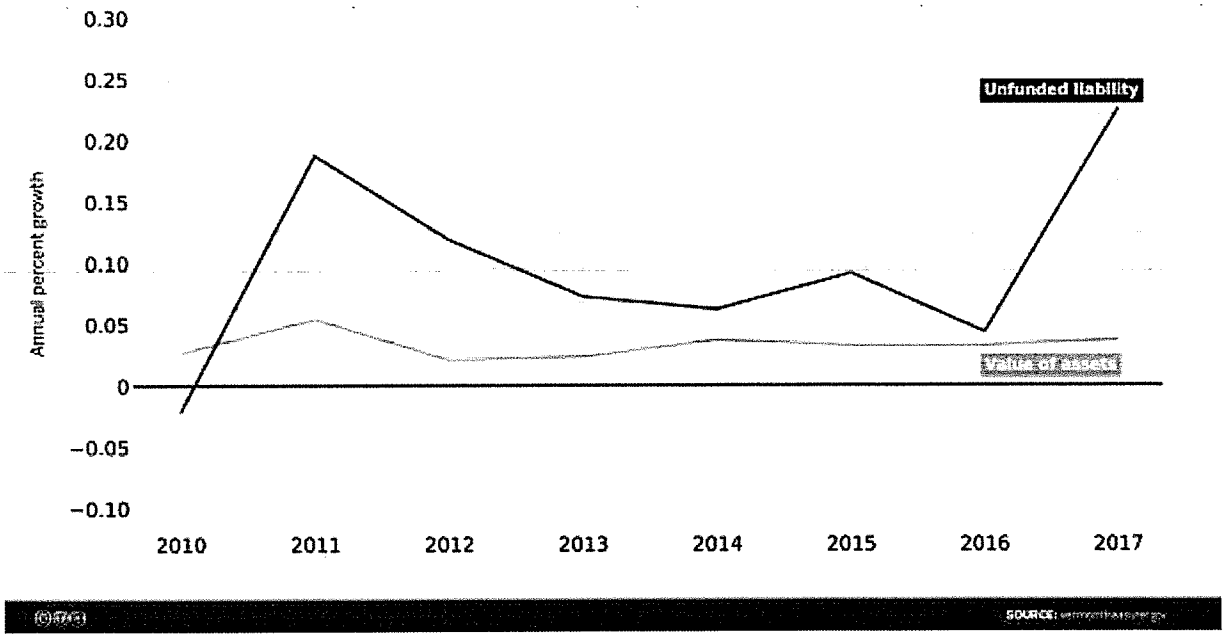
David Coates, a retired managing partner at KPMG-Vermont and a member of the 2010 state commission tasked with tackling public retiree health benefit plans, says over-optimism in predicting rates of return is one factor in the current state of the state's pension funds.

In the event that investments fail to live up to expectations, it is the state's obligation to make up for the shortfall with higher annual contributions out of the general fund, Coates said. This can lead to squeezing out other items in the state's budget.

State employees' pension growing liability



Teachers' pension growing liability



Coates' conclusion has been that the state needs to overhaul its public retirement system, and if it doesn't, it risks damaging the state's bond rating and its fiscal health.

"We need to make changes to the system, period," Coates said.

Coates has suggested the state consider switching to a retirement system more in line with what is offered in the private sector — a defined contribution plan, like a 401(k).

He has advocated for keeping in place pension plans for employees currently in the system. However, new employees could be brought into a new defined contribution plan system, eventually phasing out the pension system.

Mark Crow, a director of the Vermont Business Roundtable, agreed with Coates that rosy growth projections for pension fund investments — projections that failed to materialize — has been a major factor in the dramatic increase in the amount the state has had to draw from the general fund to support its pension obligations.

Like Coates, Crow advocates following the private sector's approach to retirement; defined contribution plans, he said, would "stop the hemorrhaging."

The first challenge, Crow said, is to broaden awareness of the problems with the current system.

"At this point we're just trying to get people to listen and to understand what the issue is," Crow said.

State Treasurer Pearce said the present state of pension funding in Vermont is at least in part a result of chronic underfunding as far back as the 1990s.

State Treasurer Beth Pearce discusses the state's financial literacy working group at a press conference last year. Photo by Mike Dougherty/VTDigger

Since 2007, both the legislative and executive branches have been committed to fully funding the state's annual contribution to the pension funds, she said.

The state is making progress, she said, though she acknowledges there is a long way to go.

"You're not going to turn these things around on a dime," she said.

The state also reduced its projected rate of return on investments this year, from 7.95 percent to 7.5 percent.

Pearce said the state evaluates its portfolio of investments on a regular basis, and it always on the lookout for ways to secure better investment results.

Pearce said she has been looking into modifying employee retirement plans according to the private sector model, but a study conducted last year found that changing to a defined contribution plan likely would cost the state more, and would not address the unfunded liability issues.

"The bottom line for me is there are no quick fixes," she said.

Meanwhile Coates said he is equally concerned about another state retirement obligation, which is retired teachers health care benefits.

Funding for health care for retired teachers was separated from the pension fund some years ago, Coates said, and he worries that account is even less well-funded than the other pension obligations.